Allied Telesis

Software Release Note

AlliedWare Plus Version 5.3.2-0.1

For SwitchBlade x908, x900 Series, and x600 Series Switches

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Introduction

This release note describes the new features and enhancements in AlliedWare Plus software version 5.3.2 since version 5.3.1. For more information, see the Software Reference for your switch. The software and documentation files for this version are available from http://www.alliedtelesis.co.nz/support/updates/awp.html.

Software file details for this version are listed in Table 1 below. There is no new GUI file for this version; the GUI file listed in the table below for use with software version 5.3.2 is the same as for software version 5.3.1.

Table 1: Switch models and software file names

Models	Series	Software file	Date	GUI file (unchanged)
x600-24Ts, x600-24Ts/XP, x600-48Ts, x600-48Ts/XP	x600	r6-5.3.2-0.1.rel	29 Jun 2009	gui_531_20.jar
SwitchBlade x908	SwitchBlade	r1-5.3.2-0.1.rel	29 Jun 2009	gui_531_20.jar
x900-12XT/S, x900-24	x900	r1-5.3.2-0.1.rel	29 Jun 2009	gui_531_20.jar

Caution: Using a software version file for the wrong switch model may cause unpredictable results, including disruption to the network.

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New Features and Enhancements

This software version includes the following main new features and enhancements. For a list of all new and modified features and commands, see "Changes in this Version" on page 4. For more information about all features on the switch, see the Software Reference for your switch. Unless otherwise stated, all new features and enhancements are available on all switch models running AlliedWare Plus.

LLDP

Link Layer Discovery Protocol (LLDP) is an open standards L2 protocol that allows a network device to advertise its identity and capabilities on the local network. Important uses of LLDP are discovery of IP phone connections and generation of network maps from network devices. For example, the Allied Telesis NMS network management system utilizes LLDP for device discovery.

Policy-based Routing

Policy-based routing (PBR) is a way to provide multiple (different cost) paths to the same destination. The choice of which path a particular packet will follow is based on policies or rules set by the network manager. Policy-based routing is useful in providing equal access, protocol-sensitive routing, or to control where different sets of traffic are forwarded when network amalgamation has resulted in overlapping address spaces.

Query Solicitation

Query Solicitation minimizes loss of multicast data after a network topology change. It is important in multicast networks when used in combination with STP or EPSR to provide fast recovery from network failures.

Switch Port Resiliency Link

This feature enables the Virtual Chassis Stacking (VCStack™) resiliency link to be configured on switch ports. This is primarily required to enable VCStack on x600 Series switches to configure the resiliency link, but it is also useful to simplify cabling in other VCStack implementations.

EPSR Enhancements

Two enhancements have been made to the Allied Telesis Ethernet Protection Switching Ring (EPSRing™):

- EPSR now allows the ring to recover successfully from multiple breaks.
- The dependence on the EPSR master node for ring resiliency has been removed. Now when the master node is unavailable, the ring is able to recover from other failures because the transit nodes are allowed to take action to heal ring breaks.

Changes in this Version

Table 2 below lists all new and modified features and commands in this version. Unless otherwise stated, all new features and enhancements are available on all switch models running AlliedWare Plus.

If your existing configurations include commands modified in this version (see the Status column), check whether you need to modify these configurations. For full command descriptions, see Software Reference for your switch.

Table 2: New and modified features and commands in this version

Feature/Command	Type	Status	Software Reference Chapter	Description
Switch enhancement				
platform delay-locked-loop-monitoring	Command	New	Switching Commands	x900 Series and SwitchBlade x908 only. This command should only be used when directed by Allied Telesis support personnel. This command allows you to configure the DLL (Delayed Locked Loop) monitoring parameters used for hardware environmental monitoring functionality.
IP enhancement				
ip gratuitous-arp-link	Command	Modified	IP Addressing and Protocol Commands	This command has been modified to send a sequence of 3 Gratuitous ARP packets to allow legacy support for older devices and interoperation between other devices that are not ready to send and receive data until several seconds after linkup.
IGMP enhancements				
Introduction to Query Solicitation	Feature	New	IGMP Snooping Introduction and Configuration	Query solicitation minimizes the loss of multicast data after a topology change on networks that use EPSR or spanning tree (STP, RSTP, or MSTP) for loop protection.
ip igmp query-holdtime	Command	New	IGMP Multicast Commands	This command sets the time that an IGMP Querier waits after receiving a query solicitation before it sends an IGMP Query. IGMP General Query messages will not be sent during the hold time interval.
ip igmp snooping tcn query solicit	Command	New	IGMP Multicast Commands	Use this command to enable IGMP (Internet Group Management Protocol) Snooping TCN (Topology Change Notification) Query Solicitation globally on all IGMP interfaces.
ip igmp source-address-check	Command	New	IGMP Multicast Commands	This command enables the checking of the Source Address for an IGMP Report, which is the default behavior, rejecting any IGMP Reports originating on devices outside the local subnet.
PIM-DM enhancement				
ip pim max-graft-retries	Command	New	PIM-DM Commands	This command configures PIM-DM to send a limited number of Graft message retries, after which time the device will remove all information regarding the particular (Source, Group), or until the device receives an acknowledgment, whichever occurs first.

Table 2: New and modified features and commands in this version

Feature/Command (cont.)	Type (cont.)	Status (cont.)	Software Reference Chapter	Description (cont.)
QoS enhancements				
Associating a class-map with a policy-map	Feature	Modified	Quality of Service (QoS)	The maximum number of class maps that may be attached to each policy map has been increased from 32 to 128.
Policy-Based Routing	Feature	New	Quality of Service (QoS)	Policy-based routing provides a means to create multiple paths to the same destination. The specific path that any particular packet will take can be based on configurable network metrics such as priority, protocol, or VLAN membership.
set ip next-hop (QoS)	Command	New	QoS Commands	This command is used for setting policy-based routing. When this command is set, all packets that match a selected class map will be forwarded to the specified nexthop. For regular routing to occur between local subnets each subnet should be configured as class map and attached to a policy map.
VRRP enhancement				
advertisement-interval	Command	Modified	VRRP Commands	Previous versions of AlliedWare Plus could have an advertisement-interval between 1 and 10 seconds. AlliedWare Plus 5.3.2 can have an advertisement-interval between 1 and 255 seconds to comply with RFC 2338.
EPSR enhancement				
epsr enhancedrecovery enable	Command	New	EPSR Commands	This new command turns on EPSR's enhanced recovery features.
LLDP				
Link Layer Discovery Protocol	Feature	New	LLDP Introduction	LLDP is an open standards L2 protocol that allows Ethernet network devices to transmit, receive, and store device-related information to and from directly connected devices on the network.
clear lldp statistics interface	Command	New	LLDP Commands	This command clears all LLDP statistics (packet and event counters) associated with specified ports. If no port list is supplied, LLDP statistics for all ports are cleared.
clear lldp table interface	Command	New	LLDP Commands	This command clears the table of LLDP information received from neighbors through specified ports. If no port list is supplied, neighbor information is cleared for all ports.
debug lldp interface	Command	New	LLDP Commands	This command enables specific LLDP debug for specified ports or all ports. When LLDP debugging is enabled, diagnostic messages are entered into the system log.
lldp holdtime-multiplier	Command	New	LLDP Commands	This command sets the holdtime multiplier value. The transmit interval is multiplied by the holdtime multiplier to give the Time To Live (TTL) value that is advertised to neighbors.

Table 2: New and modified features and commands in this version

Feature/Command (cont.)	Type (cont.)	Status (cont.)	Software Reference Chapter	Description (cont.)
lldp management-address	Command	New	LLDP Commands	This command sets the IPv4 address to be advertised to neighbors (in the Management Address TLV) via the specified ports. This address will override the default address for these ports.
lldp notification-interval	Command	New	LLDP Commands	This command sets the notification interval. This is the minimum interval between LLDP SNMP notifications (traps).
lldp notifications	Command	New	LLDP Commands	This command enables the sending of LLDP SNMP notifications (traps) relating to specified ports.
lldp reinit	Command	New	LLDP Commands	This command sets the value of the reinitialization delay. This is the minimum time after disabling LLDP on a port before reinitialization is commenced.
lldp run	Command	New	LLDP Commands	This command enables the operation of LLDP on the switch.
lldp timer	Command	New	LLDP Commands	This command sets the value of the transmit interval. This is the interval between regular transmissions of LLDP advertisements.
lldp tlv-select	Command	New	LLDP Commands	This command enables one or more optional TLVs (Type Length Value elements), or all TLVs, for transmission in LLDP advertisements via the specified ports.
lldp transmit receive	Command	New	LLDP Commands	This command enables transmission and/or reception of LLDP advertisements to or from neighbors through the specified ports.
lldp tx-delay	Command	New	LLDP Commands	This command sets the value of the transmission delay timer. This is the minimum time interval between transmitting LLDP advertisements due to a change in LLDP local information.
show debugging lldp	Command	New	LLDP Commands	This command displays LLDP debug settings for specified ports. If no port list is supplied, LLDP debug settings for all ports are displayed.
show lldp	Command	New	LLDP Commands	This command displays LLDP status and global configuration settings.
show lldp interface	Command	New	LLDP Commands	This command displays LLDP configuration settings for specified ports or all ports.
show lldp local-info interface	Command	New	LLDP Commands	This command displays local LLDP information that can be transmitted through specified ports.
show lldp neighbors detail interface	Command	New	LLDP Commands	This command displays in detail the information received from neighbors via specified ports. If no port list is supplied, detailed neighbor information for all ports is displayed.
show lldp neighbors interface	Command	New	LLDP Commands	This command displays a summary of information received from neighbors via specified ports. If no port list is supplied, neighbor information for all ports is displayed.
show lldp statistics	Command	New	LLDP Commands	This command displays the global LLDP statistics (packet and event counters).
show lldp statistics interface	Command	New	LLDP Commands	This command displays the LLDP statistics (packet and event counters) for specified ports or all ports.

Table 2: New and modified features and commands in this version

Feature/Command (cont.)	Type (cont.)	Status (cont.)	Software Reference Chapter	Description (cont.)
show running-config lldp	Command	New	File Management Commands	This command shows the current running configuration of LLDP.
LLDP-MIB	MIB	New	SNMP MIBs	The LLDP-MIB is based on IEEE Standard 802.1AB-2005, Section 12, LLDP MIB Definitions.
LLDP-EXT-DOT1-MIB	MIB	New	SNMP MIBs	The LLDP-EXT-DOT1-MIB is based on IEEE Standard 802.1AB-2005, Annex F, IEEE 802.1 Organizationally Specific TLVs., Section F.7, IEEE 802.1/LLDP extension MIB.
snmp-server enable trap	Command	Modified	SNMP Commands	This command can now be used to enable or disable the sending of LLDP traps/notifications.
Stacking enhancements				
Resiliency Link Configurations via Switch Ports	Feature	New	Stacking Introduction	The stack now supports resiliency links that connect via a VLAN to switch ports. The resiliency link carries no network data. Its function is to provide additional stack status information to enable the stack members to more accurately decide whether it is appropriate for one of them to take over the role of stack master if the existing master fails.
show stack full-debug	Command	New	Stacking Commands	Displays a detailed history of important debug-level log messages relating to current stack members. Note that this command is provided for AT support staff, and is not intended for general use.
stack resiliencylink	Command	New/ Modified	Stacking Commands	New on x600 Modified on x900 Series and SwitchBlade x908 This command enables the switch ports (attached to a dedicated resiliency-link VLAN) and the eth0 port (on x900 Series and SwitchBlade x908), to provide the VCStack resiliency link function. Resiliency connections are now able to support ring or hub-based topologies.
stack software-auto-synchronize	Command	Modified	Stacking Commands	The optional parameter "**all**" has been added. This enables you to apply the software auto-synchronization to either selected stack members or candidates, or all stack members and candidates.
switchport resiliencylink	Command	New/ Modified	Stacking Commands	New on x600 Series Modified on x900 Series and SwitchBlade x908. This command configures switch ports to be members of the stack resiliency link VLAN. Note that these switch ports will only be used for stack resiliency-link traffic and will not perform any other function, or carry any other traffic.

Installing this Software Version

To use this software version, your switch must already be running AlliedWare Plus. Contact your distributor or reseller for more information. The software version file is available from the Allied Telesis support site: http://www.alliedtelesis.co.nz/support/updates/awp.html. AT-TFTP Server software is also available from this site.

To install and enable this software version, use the following steps:

1. Copy the software version file (.rel) onto your TFTP server.

2. If necessary, delete or move files to create space in the switch's Flash memory for the new file.

   To see the memory usage, use the command:

   ```
   awplus#show file systems
   ```

   To list files, use the command:

   ```
   awplus#dir
   ```

   To delete files, use the command:

   ```
   awplus#del <filename>
   ```

   You cannot delete the current boot file.

3. Copy the new release from your TFTP server onto the switch.

   ```
   awplus#copy tftp flash
   ```

   Follow the onscreen prompts to specify the server and file.

4. Set the switch to reboot with the new software version.

   ```
   awplus#configure
   ```

   ```
   awplus(config)#boot system r1-5.3.2-0.1.rel
   ```

   Return to Privileged Exec mode and check the boot settings, by using the commands:

   ```
   awplus(config)#exit
   ```

   ```
   awplus#show boot
   ```

5. Reboot using the new software version.

   ```
   awplus#reload
   ```

Installing the GUI

This section describes how to install and set up the AlliedWare Plus GUI using an SD card or a TFTP server. The GUI Java applet file is available in a compressed (**.zip**) file from the Allied Telesis support site: http://www.alliedtelesis.co.nz/support/updates/awp.html. The version number in the GUI Java applet filename (**.jar)** gives the earliest version of the software file (**.rel**) that the GUI can operate with. AT-TFTP Server software is also available from the support site.

To install and run the AlliedWare Plus GUI requires the following system products and setup:

- PC Platform:
  Windows XP SP2 and up / Windows Vista SP1 and up
- Browser: (must support Java Runtime Environment (JRE) version 6)
  Microsoft Internet Explorer 7.0 and up / Mozilla Firefox 2.0 and up

To install the GUI on your switch, use the following steps:

1. **Copy the GUI Java applet file (.jar extension) onto your TFTP server or SD card.**

2. **Connect to the switch's management port, then log into the switch.**

3. **If necessary, delete or move files to create space in the switch's Flash memory for the new file.**

   To see the memory usage, use the command:

   ```
   awplus#show file systems
   ```

   To list files, use the command:

   ```
   awplus#dir
   ```

   To delete files, use the command:

   ```
   awplus#del <filename>
   ```

   You cannot delete the current boot file.

4. **Assign an IP address for connecting to the GUI. Use the commands:**

   ```
   awplus#configure terminal
   awplus(config)#interface vlan1
   awplus(config-if)#ip address <address>/<prefix-length>
   ```

   Where <*address*> is the IP address that you will subsequently browse to when you connect to the GUI Java applet. For example, to give the switch an IP address of 192.168.2.6, with a subnet mask of 255.255.255.0, use the command:

   ```
   awplus(config-if)#ip address 192.168.2.6/24
   ```

5. **If required, configure a default gateway for the switch.**

   ```
   awplus(config-if)#exit
   awplus(config)#ip route 0.0.0.0/0 <gateway-address>
   ```

   Where <*gateway-address*> is the IP address for your gateway device. You do not need to define a default gateway if you browse to the switch from within its own subnet.

6. **Copy the GUI file onto your switch from the TFTP server or SD card.**

   TFTP server: Use the command:

   ```
   awplus#copy tftp://<server-address>/<filename.jar> flash:/
   ```

   where <*server-address*> is the IP address of the TFTP server, and where <*filename.jar*> is the filename of the GUI Java applet.

   SD card: Insert the SD card into the SD slot on the front of your switch, and use the command:

   ```
   awplus#copy card:/<filename.jar> flash:/
   ```

   where <*filename.jar*> is the filename of the GUI Java applet.

7. **Create a user account for logging into the GUI.**

   ```
   awplus(config)#username <username> privilege 15 guiuser password
                  <password>
   ```

   You can create multiple users to log into the GUI. For information about the **username** command, see the AlliedWare Plus Software Reference.

8. **Log into the GUI.**

   Start a browser and enter the switch's IP address. The GUI starts up and displays a login screen. Log in with the username and password specified in the previous step.